Flow objectives developed to support
Yakima River Basin Water Storage Feasibility Study PR/EIS

Parker

Monthly Flow Objectives (based on the SSTWG)

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Target Q_75% cfs (dry)	**2,122**	**2400**	**3,000**	**2,571**	**1,200**	**1,100**	**1,100**	**1,100**	**1,430**	**1,498**	**1,486**	**1,764**
Target Ac-Ft_75%	126,239	142,800	178,500	152,988	71,400	65,450	65,450	65,450	85,076	89,148	88,389	104,932
Target Q_50% cfs (average)	**3,109**	**2794**	**3,500**	**2655**	**1,300**	**1,300**	**1,300**	**1,300**	**1,758**	**1,854**	**2,163**	**2,460**
Target Ac-Ft_50%	**184,978**	**166,261**	**208,250**	**157,958**	**77,350**	**77,350**	**77,350**	**77,350**	**104,616**	**110,295**	**128,712**	**146,389**
Target Q_25% cfs (wet)	**4,968**	**3,941**	**4,200**	**3,194**	**1,400**	**1,300**	**1,300**	**1,300**	**2,394**	**2,525**	**3,572**	**3,934**
Target Ac-Ft_25%	295,591	234,511	249,900	190,053	83,300	77,350	77,350	77,350	142,453	150,265	212,547	234,102

Umtanum

Monthly Flow Objectives (based on the SSTWG)

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Target Q_75% cfs (dry)	**1,500**	**2,800**	**3,500**	**2,035**	**1,800**	**1,000**	**1,000**	**1,000**	**846**	**827**	**807**	**1,001**
Target Ac-Ft_75%	89,240	166,600	208,250	121,105	107,100	59,500	59,500	59,500	50,324	49,230	48,022	59,543
Target Q_50% cfs (average)	**1,982**	**2,424**	**3,700**	**2,586**	**2,000**	**1,000**	**1,000**	**1,000**	**980**	**1,016**	**1,257**	**1,459**
Target Ac-Ft_50%	117,938	144,238	220,150	153,849	119,000	59,500	59,500	59,500	58,311	60,446	74,807	86,821
Target Q_25% cfs (wet)	**2,759**	**3,529**	**4,000**	**3,135**	**1,800**	**1,200**	**1,100**	**1,100**	**1,281**	**1,397**	**1,912**	**2,104**
Target Ac-Ft_25%	164,151	209,972	238,000	186,516	107,100	71,400	65,450	65,450	76,249	83,125	113,787	125,173

L Naches

Monthly Flow Objectives (based on the SSTWG)

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Target Q_75% cfs (dry)	**760**	**1,366**	**1,616**	**1,216**	**691**	**400**	**400**	**400**	**454**	**450**	**452**	**547**
Target Ac-Ft_75%	45,202	81,266	96,152	72,335	41,106	23,800	23,800	23,800	27,026	26,789	26,897	32,531
Target Q_50% cfs (average)	**1,265**	**1,802**	**2,297**	**2,291**	**988**	**550**	**550**	**550**	**500**	**576**	**691**	**720**
Target Ac-Ft_50%	75,296	107,194	136,682	136,307	58,772	32,725	32,725	32,725	29,779	34,290	41,112	42,834
Target Q_25% cfs (wet)	**2,119**	**2,716**	**3,238**	**3,586**	**1,449**	**600**	**600**	**600**	**815**	**908**	**1,243**	**1,226**

Target Ac-Ft_25%	126,084	161,584	192,644	213,374	86,235	35,700	35,700	35,700	48,481	54,035	73,933	72,928

Cle Elum

Monthly Flow Objectives (based on the SSTWG)

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Target Q_75% cfs (dry)	**379**	**692**	**1,200**	**953**	**423**	**350**	**350**	**350**	**400**	**400**	**400**	**400**
Target Ac-Ft_75%	22,555	41,179	71,400	56,726	25,153	20,825	20,825	20,825	23,800	23,800	23,800	23,800
Target Q_50% cfs (average)	**511**	**954**	**1,500**	**1,301**	**589**	**400**	**400**	**400**	**425**	**425**	**425**	**425**
Target Ac-Ft_50%	30,432	56,777	89,250	77,391	35,061	23,800	23,800	23,800	25,288	25,288	25,288	25,288
Target Q_25% cfs (wet)	**560**	**1,071**	**2,200**	**1,476**	**662**	**400**	**400**	**400**	**425**	**425**	**425**	**425**
Target Ac-Ft_25%	33,349	63,746	130,900	87,803	39,387	23,800	23,800	23,800	25,288	25,288	25,288	25,288

Easton

Monthly Flow Objectives (based on the SSTWG)

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb
Target Q_75% cfs (dry)	**534**	**828**	**1,000**	**535**	**400**	**350**	**350**	**350**	**400**	**425**	**425**	**425**
Target Ac-Ft_75%	31,759	49,253	59,500	31,838	23,800	20,825	20,825	20,825	23,800	25,288	25,288	25,288
Target Q_50% cfs (average)	**722**	**1,166**	**1,400**	**787**	**450**	**375**	**375**	**375**	**425**	**450**	**450**	**450**
Target Ac-Ft_50%	42,943	69,406	83,300	46,856	26,775	22,313	22,313	22,313	25,288	26,775	26,775	26,775
Target Q_25% cfs (wet)	**776**	**1,204**	**1,500**	**778**	**450**	**375**	**375**	**375**	**425**	**450**	**450**	**450**
Target Ac-Ft_25%	46,195	71,641	89,250	46,310	26,775	22,313	22,313	22,313	25,288	26,775	26,775	26,775

These values were copied from a series of EXCEL files used for the Storage Study. The file names are, "FinalDEISAlternatives_TargetFlowAnalysis_Easton" (and Cle Elum, Umtanum, LNaches, Parker). The Riverware generated unregulated flow pattern was used to help determine montly flows, as well as, use of the 2-D model habitat to flow curves (Easton, Umtanum, Lower Naches, and Parker). Parker spring flows also utilized smolt survival to flow results based on Yakama Nation PIT tag data from releases made at Chandler Juvenile Monitoring Facility (rm 47) to McNary Dam. The wet, average and dry flow objectives were expressed as function of percentile- dry = 75th, average = 50th and wet = 25th.